

Amendment to the Claims:

1. (Currently Amended) An apparatus for segmenting a series of 2D or 3D images obtained ~~of~~ from a target object within a patient, comprising:

~~a segmenter for performing a first segmentation on a first image of a first series of images,~~

5 a transform calculator which for performing calculates a series of transformations, wherein each transformation comprises ~~[[a]]~~ an fitting operation for defining a best fit between two images of said a first series of images, a first transformation of the series of transformations being between a first of the two images and a subsequent one of the two images;

10 a segmenter by which a segmentation of the first image of the first series is generated; and

an image converter which transforms the segmentation with the first transformation and applies the transformed segmentation to said subsequent one of the two images wherein the first segmentation on the first image of the first series of
15 images is modified and subsequently applied to the transformation of each further image of the first series of images that fits the first image to said further image of the first series of images.

2. (Currently Amended) The apparatus according to claim 1, wherein each transformation relates one of the first series of images to an adjacent one of the successive images of the first series of images.

3. (Currently Amended) The apparatus according to claim 1, wherein the segmentation of the first series of images is applied to a second series of images ~~in addition to the first series of images.~~

4. (Currently Amended) The apparatus according to claim 3, wherein each of the first and second series of images ~~[[is]]~~ are each collected from one of means of monitoring selected from a group consisting of:

a magnetic resonance (MR) imaging system, a computer tomography
5 (CT) imaging system, a nuclear medicine (NM) imaging system and an ultrasound
(US) imaging system.

5. (Previously Presented) The apparatus according to claim 3,
wherein the first and second series of images are collected at different times.

6. (Previously Presented) The apparatus according to claim 1,
wherein the images relate to a sphere-like organ and prior to establishing the first
series of transformations, the first series of images is converted to a modified first
series of images showing walls of the organ in a flat plane wherein opposing sides of
5 said plane correspond to an inside and an outside of said organ, and that the said
series of transformations are applied to the modified first series of images.

7-12. (Cancelled)

13. (Currently Amended) The method according to claim [[11]]
22, the segmentation of the first series of images is applied to at least a second series
of images.

14. (Currently Amended) The method according to claim 13,
further comprising:

collecting each of the first and second series of images with ~~different~~
~~means of monitoring, respectively, selected from a group consisting one of:~~
5 magnetic resonance (MR) imaging, computer tomography (CT)
imaging, nuclear medicine (NM) imaging and ultrasound (US) imaging.

15. (Previously Presented) The method according to claim 13,
wherein the first and second series of images are collected at different times.

16. (Currently Amended) The method according to claim [[11]]
22, wherein the images relate to a sphere-like organ, the method further comprising:

prior to establishing the series of transformations, converting the first
series of images to a modified first series of images showing the walls of the organ in
5 a flat plane wherein opposing sides of said plane substantially correspond to an inside
and an outside of said organ, and wherein the series of transformations are applied to
the modified first series of images.

17. (Currently Amended) A method for segmenting a series of
2D or 3D images, the method comprising:

calculating a transformation between a first image and a second image
of the series of images to determine a first transformation of a series of
5 transformations that best fits the first image and the second image;

performing a first segmentation of [[a]] the first image of the series of
images to obtain a first segmented image according to a selected segmentation
process;

~~calculating a transformation of the first image and a successive second~~
10 ~~image of the series of images to determine a best fit of the first image and the second~~
~~image; and~~

applying the first transformation to converting the first segmented
image and the calculated transformation of the first and second images into to
generate a second segmented image corresponding to the second image; and

15 at least one of storing the second segmented image and displaying the
second segmented image on a monitor.

18. (Currently Amended) The method of claim 17, further
comprising:

calculating a second transformation [[of]] between the first image and
a third image of the series of images ~~to determine a~~ which second transformation best
5 fits [[of]] the first image and the third image; [[and]]

applying the second transformation to converting the first segmented
image and the calculated transformation of the first and third images into to generate a
third segmented image corresponding to the third image; and

at least one of storing and displaying the third segmented image.

19. (Currently Amended) The method of claim 17, further comprising:

calculating a third transformation ~~[[of]]~~ between the second image and a successive third image of the series of images to ~~determine a~~ which third transformation best fits ~~[[of]]~~ the second image and the third image; ~~[[and]]~~

applying the third transformation to ~~converting the first-second segmented image and the calculated transformation of the second and third images into~~ to generate a third segmented image corresponding to the third image.

20. (Currently Amended) The method of claim 17, further comprising:

calculating a series of the transformations among ~~converting the series of images from an original series of images~~ prior to segmenting the first image,

5 wherein each image of the series of images comprises a wall of an organ in a flat plane, opposing sides of the wall respectively corresponding to inside and outside the organ.

21. (Currently Amended) The method of claim 20, further including resampling ~~wherein converting the series of images from the original series of images comprises a resample operation.~~

22. (New) A method for segmenting a series of 2D or 3D images obtained from a target object within a patient, the method comprising:

calculating a series of transformations in relation to a first series of images, each transformation of the series of transformations relating two images of

5 the first series of images to each other;

performing a segmentation on one image of the first series of images to obtain a first segmented image;

applying to the segmentation one of the transformations which relates
the one image to a subsequent image and applying the transformed segmentation to
10 said subsequent image; and
at least one of storing the subsequent image and displaying the
subsequent image.